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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,327	06/24/2003	James D. Turner	875.072US1	7904

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EXAMINER
TEETS, JONATHAN J

ART UNIT	PAPER NUMBER
2123	

MAIL DATE	DELIVERY MODE
07/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3* is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All b)☐ Some * c)☐ None of:

  1.☐ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date *02/21/2006*.

4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-3 of U.S. Application 10/609,327 are presented for examination.

Specification

2.   The abstract of the disclosure is objected to because it may not exceed 150

words in length. Correction is required. See MPEP § 608.01(b).

3.   The lengthy specification has not been checked to the extent necessary to

determine the presence of all possible minor errors. Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the

specification.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5.   **Claims 2 and 3** are rejected under 35 U.S.C. 101 because the claimed invention

is directed to non-statutory subject matter.

        Claim 2 is directed to "a system". This claimed subject matter, as written, is

merely drawn to nonstatutory descriptive material since claimed "system" appears to be

an apparatus claim that consists only of software program elements (i.e. program per

se). In this instance, the claimed "computing system" for storing, executing and so forth,

do not impart any functionality as being employed as a computer component. Further,

the specification does not appear to set forth that claimed "system" consists of anything

other than simply software elements.

Claim 3 is directed to "an article of manufacture, comprising a computer program

stored on a machine readable medium". This claimed subject matter in accordance with

Applicant's specification may be an electromagnetic signal. This subject matter is not

limited to that which falls within a statutory category of invention because it is not limited

to a process, machine, manufacture, or a composition of matter. Instead, it includes a

form of energy. Energy does not fall within a statutory category since it is clearly not a

series of steps or acts to constitute a process, not a mechanical device or combination

of mechanical devices to constitute a machine, not a tangible physical article or object

Which is some form of matter to be a product and constitute a composition of matter.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7.   **Claims 1-3** are rejected under 35 U.S.C. 102(b) as being anticipated by

Feldmann et al. (Patent No.: US 6,182,270 B1).

As to **claim 1**, Feldmann et al. teach:

A method (Methods and apparatus for performing non-linear analysis using preconditioners to reduce the computation and storage requirements associated with processing a system of equations. – see e.g., Abstract) comprising modeling a physical system to create a computer model of the physical system (A circuit, system or other device to be analyzed includes n unknown waveforms, each characterized by **N** coefficients in the system of equations. – see e.g., Abstract) and determining sensitivity partial derivatives for the model (The large linear system of equations can usually be characterized as a Jacobian matrix of partial derivatives of the non-linear system, and the solution of the Jacobian matrix is a major computational bottleneck in the steady-state analysis process. – see e.g., column 1, lines 33-37) using an object- oriented Cartesian embedding algorithm (The inversion of the preconditioned matrix J_β may be accomplished with an object-oriented extension of a conventional sparse LU factorization which manipulates arithmetic "elements" rather than floating point numbers. – see e.g., column 12, lines 66-67 and column 13, lines 1-3).

As to **claim 2**, Feldmann et al. teach:

A system comprising a computing system (The preconditioner is applied to a Jacobian matrix representation of a circuit, system or other device to be analyzed, in order to generate a preconditioned linear system which can be solved efficiently using an iterative linear solution method employing the compressed blocks of the preconditioner matrix. – see e.g., column 1, line 67 and column 2, lines 1-5) storing a

computer model of a physical system (A circuit, system or other device to be analyzed

includes n unknown waveforms, each characterized by N coefficients in the system of

equations. – see e.g., Abstract) wherein the computing system includes a computer

program executing on the system that determines sensitivity partial derivatives for the

model (The large linear system of equations can usually be characterized as a Jacobian

matrix of partial derivatives of the non-linear system, and the solution of the Jacobian

matrix is a major computational bottleneck in the steady-state analysis process. – see

e.g., column 1, lines 33-37) using an object-oriented Cartesian embedding algorithm

(The inversion of the preconditioned matrix J_β may be accomplished with an object-

oriented extension of a conventional sparse LU factorization which manipulates

arithmetic "elements" rather than floating point numbers. – see e.g., column 12, lines

66-67 and column 13, lines 1-3).

As to **claim 3**, Feldmann et al. teach:

An article of manufacture, comprising a computer program stored on a machine

readable medium (The present invention may be implemented in the form of a computer

software program stored in memory 14. – see e.g., column 3, lines 28-30), wherein

when executed on a suitable computing system the program determines sensitivity

partial derivatives for a model of a physical system (The large linear system of

equations can usually be characterized as a Jacobian matrix of partial derivatives of the

non-linear system, and the solution of the Jacobian matrix is a major computational

bottleneck in the steady-state analysis process. – see e.g., column 1, lines 33-37),

wherein the partial derivatives are determined using an object-oriented Cartesian

embedding algorithm (The inversion of the preconditioned matrix J_β may be

accomplished with an object-oriented extension of a conventional sparse LU

factorization which manipulates arithmetic "elements" rather than floating point

numbers. – see e.g., column 12, lines 66-67 and column 13, lines 1-3).

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Boyle et al. (Patent Number: 5,363,320), which teach an automatic compilation of

model equations into a gradient based analog simulator.

Ushiro (Patent Number: 5,604,911), which teaches a method of and an

apparatus for preconditioning of a coefficient matrix of simultaneous linear equations.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jonathan J. Teets whose telephone number is (571)

270-1321. The examiner can normally be reached on Mon through Fri, 8:30am -
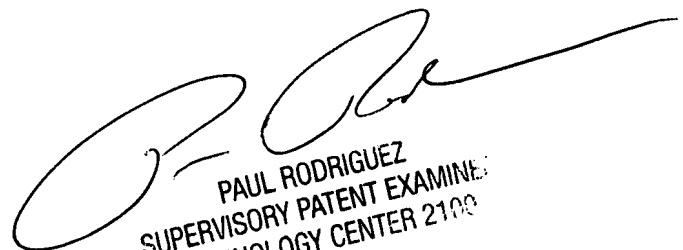
6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Paul Rodriguez can be reached on (571) 272-3753. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jonathan J Teets
Examiner
Art Unit 2123

J.T. 07/14/2007

PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINE.
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